

**Remarks**

Applicants respectfully request reconsideration of the above referenced application in light of the Remarks that follow. Claims 1-36 are now pending in this application.

In the Final Office Action dated March 22, 2007 (the “Final Office Action,”) the Examiner rejected claims 1-11 under 35 U.S.C. 103(a) as being unpatentable over Magill et al. (U.S. Patent Application Publication No. 2004/0143542, hereinafter “Magill”) in view of Gianakouros et al. (U.S. Patent 7,035,819 B1, hereinafter “Gianakouros.”) Claims 12-36 were rejected under 35 U.S.C. 103(a) as being unpatentable over Magill in view of Gianakouros in view of Lupien et al. (U.S. Patent No. 5,689,652, hereinafter “Lupien.”) Applicants respectfully traverse each of the rejections.

The Applicants’ Remarks, set forth below, are preceded by related comments of the Examiner set forth in small indented bold-faced type.

**Applicant’s initial contention is that there is no motivation to combine the references. However, it has been found that “In many, if not most, situations, there is neither a motivation to make the modification clearly articulated in the reference nor an evident lack of motivation. Rather, the prior art references typically disclose elements or aspects of the claimed subject matter, but fail to specifically point the way toward the combination, substitution or other modification needed to arrive at the invention. A judgment must be made whether ‘a person of ordinary skill in the art would have had sufficient motivation to combine the individual [elements] forming the claimed [invention].’ In re Clinton, 527 F. 2d 1226, 1228, 188 USPQ 365, 367 (CCPA 1976).**

**The Federal Circuit has further stated that ‘Although our predecessor court was the first to articulate the motivation –suggestion-teaching test, a related test—the “analogous art” text – has long been part of the primary Graham analysis articulated by the Supreme Court. See Dann, 425 U.S. at 227-29; Graham, 383 U.S. at 35.2 The analogous-art test requires that the Board show that a reference is either in the field of the applicant’s endeavor or is reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection. In re Oetiker, 977 F. 2d 1443, 1447 (Fed. Cir. 1922). References are selected as being reasonably pertinent to the problem based on the judgment of a person having ordinary skill in the art. Id. (“[I]t is necessary to consider “the reality of the circumstances,”—in other words, common sense—in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.” (quoting In re Wood, 599 F. 2d 1032, 1036 (C.C.P.A. 1979))).**

**In this instance Magill and Gianakouros are considered analogous art as they both disclose automated trading networks that seek to match buyers and sellers at a beneficial price. Therefore the examiner maintains that the references are pertinent to the problem and would therefore it is reasonable that a person of ordinary skill would have looked at automated trading networks as a whole to look for a solution to the problem facing the inventor.**

Final Office Action, pg. 14-15.

Applicants respectfully submit that whether Magill and Gianakouros are considered analogous art or not, and whether the desirability of the combination is suggested by the references or not, is in fact in material to the question of patentability of the claimed invention. Applicants respectfully sustain that one of skill in the art would have not been motivated to combine the Magill and Gianakouros references, since neither of them teach the limitations of the invention claimed by Applicants. In other words, there would have been no motivation to combine Magill and Gianakouros, since their combination would have not resulted in or helped to arrive at Applicants' claimed invention. Moreover, the combination of Magill and Gianakouros offers no solution to the problem faced by Applicants'. As stated in the Response to the Office Action mailed on July 18, 2006 (the "Previous Office Action,") filed on December 18, 2006 (the "Previous Response,") Magill does not teach a particular strategy of price improvement beyond the calculation of the midpoint between the buy and sell order prices. Also as stated in the Previous Response, Gianakouros teaches that binding indications of interest to buy or sell specific equity securities submitted to the system without an associated price limit, represent the submitting institution's willingness to trade at the midpoint of the NBBO whatever this price happens to be (Gianakouros, Col. 4, lines 29- 46.) As stated by Applicants in the Previous Response, the mere matching of orders at the midpoint of the NBBO, as disclosed by Gianakouros, was already disclosed as prior art by Applicants (Specification, pg. 4, lines 12-15,) and thus, clearly not part of the invention.

For at least the foregoing arguments, Applicants respectfully sustain that one of skill in the art at the time of the invention would have had no reason to combine Magill and Gianakouros when faced with the problem addressed by Applicants'.

Next, the Examiner stated:

In response to applicant's argument that Magill and Gianakouros are not combinable (Remarks Pages 6-7), the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F. 2d 413, 208 USPQ 871 (CCPA 1981). In other words, the test for obviousness in this case is not whether the system targeted toward market professionals can be bodily incorporated into a system for individual securities traders (even if it can), but rather what the teachings of the secondary reference add to the primary reference. The Gianakouros reference, with respect to independent claim 1, is added to show the determination of whether the buy and sell orders are within an NBBO range (Office Action Page 3). As stated previously, the Examiner maintains that it would have been obvious to include the teachings of Gianakouros to Magill to increase the degree of mutual satisfaction of Magill (a primary objective) by removing outlier bids, thus creating an efficient, fair and equitable market for Magill participants.

Final Office Action, pg. 15-16.

Applicants respectfully disagree with the Examiner's assertion that "it would have been obvious to include the teachings of Gianakouros to Magill to increase the degree of mutual satisfaction of Magill (a primary objective) by removing outlier bids, thus creating an efficient, fair and equitable market for Magill participants." As Applicants stated in the Previous Response, Magill states "[t]he system of the invention in its preferred embodiment employs an order-matching algorithm designed to seek the best mutual matching price" (Magill, para. [0085.]) The Examiner recognizes that. However, the Examiner appears to interpret "mutual satisfaction" to mean "efficient, fair and equitable." Applicants respectfully submit that that is an incorrect interpretation, as "mutual" according to the Merriam-Webster Dictionary means "directed by each toward the other or the others." This means, that according to Magill's teachings, the matching price will be the best matching price for both parties involved, even if one of the parties offers an outlier bid or offer. There is nothing in mutual satisfaction that means "efficient," "fair" or "equitable." The Examiner's statement is therefore unsupported by Magill's disclosure.

Moreover, Applicants respectfully disagree with the Examiner's assertion that "[t]he Gianakouros reference, with respect to independent claim 1, is added to show the determination of whether the buy and sell orders are within an NBBO range." Applicants respectfully submit that Gianakouros does not make such a determination. Gianakouros teaches a system that collects "binding indications of interest to buy and sell specific equity securities at passively determined, non-discrete prices" (Gianakouros, col. 3, lines 29-32.) Gianakouros further teaches

that binding indications of interest to buy or sell specific equity securities submitted to the system without an associated price limit, represent the submitting institution's willingness to trade at the midpoint of the NBBO (whatever this price happens to be):

*These institution-to-institution crosses will generally occur at the midpoint of the NBBO whenever institutional clients willing to transact with non-retail trading interest enter two or more offsetting institutional indications.*

*In an embodiment of the present invention, the indications of interest are entered into the System by institutional clients and can include, for example, the following information: side (buy or sell), security symbol, number of shares, and maximum or minimum price (optional). For as long as an indication, or a residual portion thereof, is active in the System, the indication represents the submitting institution's willingness to interact with offsetting retail marketable orders (and, at the submitting institutions option, offsetting institutional indications) at the midpoint of the NBBO. This interaction would result in trades for the institution on the specified side of the specified symbol up to an aggregate quantity equal to the specified (or remaining) number of shares.*

Gianakouros, Col. 4, lines 29– 46.

Therefore, Gianakouros simply determines whether the indications to buy or sell specific equity securities submitted to the system have or do not have an associated price limit. However, Applicants' claim does not require that. Applicants' claim requires "determining if said buy order price and said sell order price are within said NBBO range." This claim limitation is not taught by Gianakouros.

Furthermore, Applicants respectfully submit that the Examiner's argument is flawed in that Gianakouros' teachings are incompatible with a "mutual satisfaction," as bidders may submit their indications to buy or sell securities with prices that are not equidistant from the NBBO average. Therefore, proposing to them a price that would be the midpoint of the NBBO range, like Gianakouros teaches would not provide a mutual satisfaction.

As for the Examiner's argument that "the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have

suggested to those of ordinary skill in the art. See *In re Keller*, 642 F. 2d 413, 208 USPQ 871 (CCPA 1981)", the MPEP complete citation reads in the following way:

*"The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also In re Sneed, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983) ("[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review."); and In re Nievelt, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973) ("Combining the teachings of references does not involve an ability to combine their specific structures.").*

However, the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose. See MPEP § 2143.01.  
MPEP 2145 III (emphasis added)

Further, the MPEP states:

VI. THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE

*If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)*

MPEP 2143.01

and:

V. THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE

*If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)*

MPEP 2143.01

Therefore, Gianakouros could not be combined with Magill, because matching the buy and sell orders received at the midpoint of the NBBO price would change the principle of operation of Magill, which is to provide the best mutual satisfaction price.

The Examiner states that "it would have been obvious to include the teachings of Gianakouros to Magill to increase the degree of mutual satisfaction of Magill (a primary

objective) by removing outlier bids, thus creating an efficient, fair and equitable market for Magill participants” (Office Action, pg. 16.) However, the Examiner has presented no factual support for his statement that one of skill in the art would have considered removing outlier bids. Neither Magill nor Gianakouros discuss “outlier bids” nor an “efficient, fair and equitable market.” In fact, one could argue that the fact that neither Magill nor Gianakouros address the price improvement techniques taught by Applicants could be used as factual support that one of skill in the art would not have found Applicants’ claimed invention to be obvious. Thus, the Examiner’s statement that “it would have been obvious to include the teachings of Gianakouros to Magill to increase the degree of mutual satisfaction of Magill (a primary objective) by removing outlier bids, thus creating an efficient, fair and equitable market for Magill participants” (Office Action, pg. 16) leads Applicants to conclude that the Examiner is applying hindsight reasoning, which is impermissible. As the MPEP notes:

*“The tendency to resort to “hindsight” based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.”*

MPEP § 2142; and

*“When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:(...) (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention (...) Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).”*

MPEP § 2141 II

Next, the Examiner stated:

Applicant further contends that Gianakouros teaches away from the limitations of “calculating a midpoint between said buy order price and said sell order price” and “matching said buy order and said sell order at said midpoint if said buy order is not less than said sell order price and said buy order price and said sell order price are within said NBBO range.” However the applicant points to a single embodiment of Gianakouros to cite the support the supposed teaching away (Remarks, Page 5).

However the beginning of the passage clearly states, "Although a variety of execution-price protocols are possible in one embodiment..." However, It has been found that, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F. 3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Final Office Action, pg. 16

Applicants respectfully submit that Applicants are not stating that Gianakouros is teaching away from Applicants' invention because he is disclosing more than one embodiment, but rather, that Gianakouros only discloses embodiments that point one of skill in the art in a direction away from Applicants' claimed invention. The statement from Gianakouros cited by the Examiner "[a]lthough a variety of execution-price protocols are possible in one embodiment..." is a standard statement in patents that does not point to one of skill in the art in any particular direction.

Next, the Examiner added:

The applicant further contends that the Examiner has used hindsight reasoning gained by a review of the Applicants specification. In support the applicant points to a disclosure of prior art in the present application (Remarks page 7.) Respectfully, the examiners use of prior art even if disclosed by the applicant's specification, does not represent hindsight reconstruction anymore than the use of a reference from a Information Disclosure Statement. Furthermore, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F. 2d 1392, 170 USPQ 209 (CCPA 1971). Applicant's submission in the specification that this knowledge was within the level or ordinary skill at the time of filing indicates that the reconstruction was therefore proper.

Final Office Action, pg. 16-17.

Applicants respectfully submit that the Examiner is misinterpreting Applicants' arguments. Applicants did not use the disclosure of prior art in the present application to support Applicants' contention that the Examiner had resorted to hindsight reasoning. Rather, Applicants used the reference to the disclosure of prior art in the present application to demonstrate that Gianakouros' disclosure as used by the Examiner (i.e. the matching of orders at the midpoint of the NBBO) was already disclosed as prior art by Applicants.

Applicants' conclusion that the Examiner is resorting to hindsight reasoning was based on the fact that the Examiner's conclusion of obviousness as a whole appears to be laid on hindsight reasoning, as the Examiner failed to provide convincing evidence that Applicants' claimed invention could be arrived at through the prior art. In fact, the prior art references cited by the Examiner illustrate the status of the art prior to Applicants' invention, and hence the absence of a proper solution to the problem addressed by Applicants.

As stated by the MPEP:

*III. CONTENT OF THE PRIOR ART IS DETERMINED AT THE TIME THE INVENTION WAS MADE TO AVOID HINDSIGHT*

*The requirement "at the time the invention was made" is to avoid impermissible hindsight. See MPEP § 2145, paragraph X.A. for a discussion of rebutting applicants' arguments that a rejection is based on hindsight.*

*"It is difficult but necessary that the decisionmaker forget what he or she has been taught . . . about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).*

MPEP 2141.01

Next, the Examiner stated:

Applicant's next argument is that the reference alone or in combination do not disclose at least "determining if said buy order price is not less than said sell order price," and "matching said buy order price and said sell order price at said midpoint if said buy order price are within said NBBO range." With respect to the first limitation, the Examiner has taken Official Notice that this step is old and well known because, among other things, if this step was ignored and the sides were matched, then no price improvement occurs (an objective of both references).

Final Office Action, pg. 17.

Applicants respectfully submit that the Examiner errs in his assertion that "[w]ith respect to the first limitation, the Examiner has taken Official Notice that this step is old and well known because, among other things, if this step was ignored and the sides were matched, then no price improvement occurs (an objective of both references)". In certain securities transactions, the bid price may be lower than the offer price, and yet a match will occur if the necessity to execute a trade is outweighed by an offset in the desired matching price. In fact, price improvement per se



is not an objective of neither Magill nor of Gianakouros, even if a certain price improvement may passively occur as a consequence of the methods taught by both. Magill only refers to using “an order matching algorithm designed to seek the best mutual matching price” (Magill, para 0085.) Gianakouros, as stated earlier, teaches that binding indications of interest to buy or sell specific equity securities submitted to the system without an associated price limit, “represent the submitting institution's willingness to trade at the midpoint of the NBBO (whatever this price happens to be)” (Gianakouros, col. 4, line 66 – col. 5, line 2, emphasis added.)

In page 3 of the Final Office Action, the Examiner stated “[w]hile the references do not explicitly disclose determining if said buy order price is not less than said sell order price, Official Notice is taken that this step is old and well known to price improvement systems. If this step was ignored and the sides were matched, then no price improvement occurs.” However, Applicants respectfully submit that the Examiner provides no evidentiary support for Magill and Gianakouros being “price improvement” systems. Price improvement is not always necessarily a goal of transaction price matching systems.

Next, the Examiner stated:

With regards to the second limitation “matching said buy order price and said sell order price at said midpoint is said buy order price is not less than said sell order price and said buy order price and said sell order price are within said NBBO range,” the examiner has referenced both Magill and Gianakouros as disclosing this conditional feature. For Magill states that “This algorithm examines the prices designated with each order and then selects the mid-point of the two prices (paragraph 0085).” While not explicitly stating that exact language of the conditional statement, the examiner believes that the Magill reference would “matching said buy order and said sell order at said midpoint if said buy order price is not less than said sell order price and said buy order price and said sell order price are within said NBBO range,” as claimed. It appears that since Magill does not limit its system to just this conditional statement than the limitation is not met. However, the system of Magill meets the conditional limitation regardless of whether it matches bids outside the NBBO. The examiner feels that additional limitations in the claim (perhaps “only” matching said buy order and sell order price if they are within the NBBO range) might more clearly define the invention. However as is claimed right now, the examiner believes that Magill is sufficient.

Final Office Action, pg. 18-19.

Applicants thank the Examiner for his suggestion to amend the claims. While Applicants sustain such amendment is not necessary, as the language of the limitation in question appropriately defines the claimed invention and is not taught or suggested by either Magill or Gianakouros as argued in previous responses, and as detailed again below, Applicants have

amended the claim 1 limitation as suggested by the Examiner in an effort to expedite the prosecution of the application. Applicants note that claims 2-3, 5, 25-27 29 have been amended accordingly.

As for claim 12, the Examiner stated:

With regards to claim 12, the examiner maintains his argument that a ‘anonymous’ as understood by a person of ordinary skill in the art, indicates that orders are ‘kept confidential,’ and are therefore equivalent to ‘passive orders.” In addition with regards the passive orders the applicant points to his specification that ‘passive orders’ are defined as either ‘not held, ‘cross only’ and ‘do not represent.’ As pointed out, Lupien discloses the ‘cross only’ function and therefore discloses the limitation as claimed, as this is a ‘passive order’ as defined and there is no specific claim language as to the ‘plurality of passive orders.’ In other words given the broadest reasonable interpretation of the claim passive orders could be a plurality of ‘cross only,’ orders, which renders Lupien sufficient. It has been found that ‘reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from ‘reading limitations of the specification into a claim,’ to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.” The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F. 3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In *re Prater*, 415 F. 2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

Final Office Action, pg. 19-20.

Applicants have hereby amended claim 12 to clarify the definition of passive orders as used in the Specification (pg. 9), which supports Applicants’ argument that “anonymous” as used by Lupien is not equivalent to “passive orders” as used by Applicants. Thus, Applicants respectfully sustain that Lupien does not teach or suggest passive orders, and for at least this reason further sustain that claim 12 as amended is in condition for allowance. Applicants note that claim 21 has been amended accordingly.

With regards to applicants claim that there is no motivation to modify or combine the references, the Examiner refers Applicant back to previous arguments above regarding the analogous art test. Lupien, like the previously cited references is directed toward a crossing network utilizing optimal mutual satisfaction profiles. Therefore the examiner maintains that the references are pertinent to the problem and would therefore it is reasonable that a person of ordinary skill would have looked at the automated trading networks as a whole to look for a solution to the problem facing the inventor.

Final Office Action, pg. 20.

Applicants respectfully submit that, as previously argued, one of skill in the art would have not been motivated to combine the Magill, Gianakouros and Lupien references, since neither of them teach the limitations of the invention claimed by Applicants. In other words, there would have been no motivation for one of skill in the art at the time of the invention to combine Magill, Gianakouros and Lupien, since their combination would have not resulted in or helped one of skill in the art to arrive at Applicants' claimed invention.

In the remainder of the Final Office Action, the Examiner sustains the same rejections and arguments presented in the Previous Office Action. Applicants respectfully sustain their previously presented arguments:

**Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magill et al. (hereinafter Magill, US 2004/0143542) in view of Gianakouros et al. (hereinafter Gianakouros US 7,035,819 B1).**

**Re Claim 1: Magill discloses a system and method for interactive electronic open order book for securities transactions comprising the steps of:**

- Identifying an NBBO price range (paragraph 0085; nationally disseminated best bid/ask);
- Calculating a midpoint between said buy order price and said sell order price (paragraph 0085) and;

**Magill does not explicitly disclose:**

- Determining if said buy order price and said sell order price are within said NBBO range (paragraph 0085);
- Determining if said buy order price is not less than said sell order price;
- Matching said buy order and said sell order at said midpoint if said buy order is not less than said sell order price and said buy order price and said sell order price are within said NBBO range (paragraph 0085).

Gianakouros discloses a method and system for facilitating automated interaction of marketable retail orders wherein a determination is made as to whether the buy order price and sell order price are within an NBBO range (Column 1 lines 53-56 and Column 33 line 64-Column 4 line 5 "Retail Marketable Orders."). It would have been obvious to a person of ordinary skill in the art to modify Magill in view of Gianakouros

Applicants respectfully traverse the Examiner's rejection. As the MPEP recites:

*"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the*

*prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."*

MPEP § 2142, emphasis added.

Applicants respectfully submit that the Examiner has not established a prima facie case of obviousness because there is no motivation to modify or combine the reference teachings and even if the references were combined, none of the prior art references, alone or in combination, describe or suggest all of the claimed limitations of claim 1.

(a) Even if the references were combined, none of the prior art references, alone or in combination, describe or suggest all of the claimed limitations of the present invention:

Even if Magill and Gianakouros were combined, none of the references, alone or in combination, describe or suggest all of the claimed limitations of at least independent claim 1. As the Examiner has stated, Magill does not explicitly disclose: a) determining if said buy order price and said sell order price are within said NBBO range, b) determining if said buy order price is not less than said sell order price, and c) [only] matching said buy order and said sell order at said midpoint if said buy order is not less than said sell order price and said buy order price and said sell order price are within said NBBO range. Gianakouros does not teach at least the limitations "determining if said buy order price is not less than said sell order price" and "only matching said buy order and said sell order at said midpoint if said buy order is not less than said sell order price and said buy order price and said sell order price are within said NBBO range."

As an initial matter, Gianakouros teaches a system that collects "binding indications of interest to buy and sell specific equity securities at passively determined, non-discrete prices" (Gianakouros, col. 3, lines 29-32.) Gianakouros further teaches that binding indications of interest to buy or sell specific equity securities submitted to the system without an associated price limit, represent the submitting institution's willingness to trade at the midpoint of the NBBO (whatever this price happens to be):

*These institution-to-institution crosses will generally occur at the midpoint of the NBBO whenever institutional clients willing to transact with non-retail trading interest enter two or more offsetting institutional indications.*

*In an embodiment of the present invention, the indications of interest are entered into the System by institutional clients and can include, for example, the following information: side (buy or sell), security symbol, number of shares, and maximum or minimum price (optional). For as long as an indication, or a residual portion thereof, is active in the System, the indication represents the submitting institution's willingness to interact with offsetting retail marketable orders (and, at the submitting institutions option, offsetting institutional indications) at the midpoint of the NBBO. This interaction would result in trades for the institution on the specified side of the specified symbol up to an aggregate quantity equal to the specified (or remaining) number of shares.*

Gianakouros, Col. 4, lines 29– 46.

Applicants respectfully submit that, as opposed to Gianakouros' system, Applicants' claim 1 requires "calculating a midpoint between said buy order price and said sell order price" and "only matching said buy order and said sell order at said midpoint if said buy order price is not less than said sell order price and said buy order price and said sell order price are within said NBBO range." Gianakouros makes no such determinations and proceeds to matching the orders at the midpoint of the NBBO range if the orders are submitted without an associated price limit. This method taught by Gianakouros does not show how to take into consideration the investors' interests and offer an appropriate matching price.

Next, Gianakouros describes two examples of how the system would handle indications which had been submitted to the system with an associated price limit. Gianakouros teaches that if the submitted indication is to buy shares, and the price limit associated with it is outside of and higher than the NBBO range, then the transaction will be executed at the midpoint of the NBBO. Gianakouros also teaches that if the submitted indication is to buy shares, and the price limit associated with it is outside of and lower than the NBBO range, then the transaction will not take place:

*Transactions on the System are also subject to any limits specified by the submitting institution governing the maximum or minimum price at which it is willing to transact. For example, an institutional indication to buy 50,000 shares of IBM "up to" 1321/4 signifies the submitting institution's willingness to buy up to a total of 50,000 shares of IBM at the (variable) midpoint of the NBBO, as long as it never transacts at a price greater than 1321/4. This indication would therefore be "active" when, for example, the NBBO for IBM is 1315/8.times.1313/4 (in which market the institution would buy from counter-parties*

at 131 11/16, the market midpoint), but would be "inactive" when, for example, the NBBO for IBM is 1323/8.times.1321/2 (since the midpoint of this market, 132 7/16, exceeds the institutional indication's price limit of 1321/4). An inactive indication present in the System would not result in any trades, just as if the indication did not exist at all. It should be noted that price limits for indications are strictly optional and they are included and specified at the sole discretion of institutional clients submitting indications. An indication submitted without an associated price limit would simply represent the submitting institution's willingness to trade at the midpoint of the NBBO (whatever this price happens to be) on the specified side of the specified symbol up to the specified number of shares. Unless explicitly indicated otherwise, all indications used in the following descriptions of various embodiments of the present invention can be assumed to be active.

Gianakouros, Col. 4, line 29 – Col. 5, line 6.

Again, Applicants respectfully submit that Gianakouros' system ignores the investors' interests since, if a price limit to buy is submitted and it is higher than the NBBO, the matching will occur at the midpoint of the NBBO, irrespective of what the price limit of the order to sell or buy is. As opposed to Gianakouros' system, Applicants' claim 1 requires "calculating a midpoint between said buy order price and said sell order price" and "only matching said buy order and said sell order at said midpoint if said buy order price is not less than said sell order price and said buy order price and said sell order price are within said NBBO range." This means that if both the buyer and the seller set prices within the NBBO range (i.e. the prices are not "unreasonable"), and the buy order price is not less than the sell order price, the matching price offered by Applicants' system will be the most fair price for both buyer and seller.

Gianakouros also teaches that when transactions occur between institutional clients and retail investors, orders and indications will be matched at points within the NBBO spread that are not equidistant from the NBBO midpoint, in order to provide order flow remuneration to the retail brokerage firm (see also Gianakouros, Example 1 Col. 14, line 17 – Col. 15, line 18):

*Although a variety of execution-price protocols are possible, in one embodiment of the present invention, one quarter of the NBBO spread for each retail share executed on the System against an institutional indication will accrue to the end retail investor in the form of "guaranteed" price improvement (that is, retail investors whose orders are executed on the System would always buy at*

*a price 1/4 spread lower than the national best offer and sell at a price 1/4 spread higher than the national best bid), and that another quarter of the NBBO spread will accrue to the originating retail brokerage firm pursuant to a revenue-sharing arrangement. The remaining 50% of the NBBO spread will always go to the institutional client in the form of a midpoint execution. The System will generate proprietary revenue (which is not expected to be re-distributed to brokerage partners as order flow remuneration) by charging these institutional clients a per-share commission for trades on the System.*

Gianakouros, Col. 13, line 61 – Col. 14, line 12.

Once more, Applicants respectfully submit that Gianakouros' system ignores the investors' interests in determining the matching price.

In reference to the combination of Magill's and Gianakouros' teachings, the Examiner states that "[i]n requiring that orders are within the NBBO range, the system decreases the odds of outlier bids being placed and increases the overall liquidity of the system" (emphasis added.) However, Applicants respectfully submit that Gianakouros does not require that binding orders and indications are within the NBBO range. In Gianakouros, binding orders and indications are accepted with price limits that may be outside of the NBBO range (Col. 4, lines 47-57, and Col. 14, line 21 – Col. 15, line 18.)

For the foregoing reasons, Applicants respectfully submit that Gianakouros does not teach or suggest the limitations of Applicants' claim 1.

In addition, Magill states "[t]he system of the invention in its preferred embodiment employs an order-matching algorithm designed to seek the best mutual matching price" (Magill, para. [0085].) Gianakouros' system however, while being able to passively provide some price improvement, is not "designed to seek the best mutual matching price." As earlier discussed, Gianakouros teaches that when transactions occur between institutional clients and retail investors, transactions will be matched at points within the NBBO spread that are not equidistant from the midpoint in order to provide order flow remuneration to the retail brokerage firm (see also Gianakouros, Example 1 Col. 14, line 17 – Col. 15, line 18.) Moreover, even when transactions occur by institution-to-institution crosses, and the indications of interest to buy or sell are executed at the midpoint of the NBBO, Gianakouros' system does not seek the "best

mutual matching price.” Gianakouros does not teach at which matching price indications would be executed in the instance for example, that institutional clients associate limit prices to their indications that are not equidistant from the NBBO’s midpoint (whether inside or outside of the NBBO range), yet complementary and overlapping in range (therefore resulting in a viable trade.)

Thus, Applicants respectfully submit that neither Magill nor Gianakouros teach or suggest the limitations of Applicants’ claim 1.

(b) There is no motivation to modify or combine the reference teachings:

Applicants respectfully submit that the teaching or suggestion to make the claimed combination is not found in either Magill or Gianakouros. In fact, Applicants respectfully submit that for the reasons detailed in section a), Gianakouros teaches in a different direction (i.e. “away”) from at least the limitations of Applicants’ claim 1 “calculating a midpoint between said buy order price and said sell order price” and “only matching said buy order and said sell order at said midpoint if said buy order price is not less than said sell order price and said buy order price and said sell order price are within said NBBO range.” Therefore, Applicants respectfully submit that it would not have been obvious to a person of ordinary skill in the art to modify Magill in view of Gianakouros to obtain Applicants’ method as recited in claim 1, as one of skill in the art not only would have not found the teachings or suggestions in these references to arrive at Applicants’ claimed invention, but in fact would have been distracted from arriving at such claimed invention.

The Examiner has provided the following arguments to support his statement that it would have been obvious to a person of ordinary skill in the art to modify Magill in view of Gianakouros:

**It would have been obvious to a person of ordinary skill in the art to modify Magill in view of Gianakouros so that the participants in the system receive a higher degree, on average, of price improvement. In requiring that orders are within the NBBO range, the system**



decreases the odds of outlier bids being placed and increases the overall liquidity of the system. By maintaining a level of consistency with regards to the range of bids and offers accepted, the system will be more likely to create a match that is efficient in terms of speed and in terms of price for both parties. Furthermore, matching at the midpoint of the matched offers ensures that the most equitable agreement is reached, without one side of the transaction achieving a higher degree of price improvement than the other.

Final Office Action, pg. 3.

As discussed earlier, Gianakouros teaches a system whereby binding indications of interest to buy and sell specific equity securities are matched at the midpoint of the NBBO, whatever this price happens to be. Applicants respectfully submit that such a system is described in Applicants' specification as prior art:

*Prior art systems exist for matching buy and sell orders in a particular security. These systems, also called crossing networks, match buyers and sellers using any of a number of algorithms. For example, POSIT, a crossing network owned by ITG, Inc., matches buyers and sellers at the midpoint of the prevailing national best bid and offer (the "NBBO")*

(Specification, pg. 4, lines 12-15).

Applicants respectfully submit that this appears to be a case in which the Examiner's conclusion of "obviousness" is merely based on an application of hindsight reasoning gained by the Examiner's review of the present application. Such hindsight reasoning is impermissible.

As the MPEP notes:

*"The tendency to resort to "hindsight" based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art."*

MPEP § 2142; and

*"When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (...) (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention (...) Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986)."*

MPEP § 2141 II

Thus, Applicants respectfully submit that the Examiner's conclusion that it would have been obvious to one of ordinary skill in the art is unsupported by the cited Magill and Gianakouros references.

For at least the foregoing reasons, Applicants respectfully submit that independent claim 1 is distinguishable over Magill in view of Gianakouros, and notice to the effect that this claim is in condition for immediate allowance is respectfully requested.

Claims 2-11 depend from independent claim 1, and each defines further features of the method. As such, these claims are patentable for the reasons noted above with respect to claim 1, as well as for the additional features recited therein. Claims 2-3 and 5 have been amended to incorporate the same language as in amended Claim 1. As stated in the Remarks filed on April 19, 2006, beyond the calculation of the midpoint between the buy and sell order prices, Magill does not teach a particular strategy of price improvement: "In the event that the mid-point is not between the nationally disseminated best bid and ask prices (the NBBO), the system will look for a price at which it can match a price equal to or better than the NBBO." (Id.) This statement is vague, and it is unclear how Magill makes adjustments to the matching price in case the midpoint between the buy and sell order prices does not fall within the NBBO. Applicants' Specification, on the other hand, delineates the strategy of price improvement based on a set of different possible scenarios, as claimed in the methods of claims 2-4. Gianakouros' price matching strategy greatly differs from Applicants' as explained in detail above. Accordingly, notice to the effect that dependent claims 2-11 are in condition for immediate allowance is respectfully requested.

**Claims 12-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magill in view of Gianakouros in view of Lupien et al. (hereinafter Lupien, US Pat 5,689,652).**

Lupien discloses a crossing network that matches buy and sell orders based upon a satisfaction and quality profile (see abstract). Lupien further discloses that typically the matching process is anonymous (passive), however the buy and sell orders are not required to be confidential (pass through).

It would have been obvious to someone skilled in the ordinary art at the time of invention to include the teachings of Lupien to the disclosure of Magill in view of Gianakouros, so that

there is an efficient system in place to both record buy and sell orders in a database, compare said buy and sell orders and match orders appropriately.  
Final Office Action, pg. 10.

The Examiner has rejected claims 12-36 under 103(a) over Magill in view of Gianakouros in view of Lupien.

Applicants respectfully submit that the Examiner has not established a prima facie case of obviousness because there is no motivation to modify or combine the reference teachings and even if the references were combined, none of the prior art references, alone or in combination, describe or suggest all of the claimed limitations of claims 1, 12 and 21.

(a) Even if the references were combined, none of the prior art references, alone or in combination, describe or suggest all of the claimed limitations of the present invention:

As an initial matter, Claims 12-20 depend on claim 1, either directly, or indirectly, and each defines further features of the method. As such, these claims are patentable for the reasons noted above with respect to claim 1, as well as for the additional features recited therein.

In addition, Applicants have hereby amended claims 12 and 21 to clarify the definition of “passive orders” as used in Applicants’ Specification, which establishes that passive orders include “orders that are designated as “not held,” “cross only” and “do not represent” orders, thereby indicating that these orders are to be kept confidential. If crossing network 3 is operated by a financial institution, then passive order flow source 5 may include orders from customers that the financial institution is required to keep confidential even from traders and salespersons within the financial institution. Passive order flow source 5 may also include proprietary orders (i.e., orders on behalf of the financial institution) that the financial institution does not want to route externally” (Specification, page 9, 2<sup>nd</sup> full para., line 2 to page 10, line 4.)

Applicants respectfully submit that Lupien does not disclose such a definition of orders, and thus, Lupien does not teach at least the limitation of “passive orders” in claim 12 and in independent claim 21.

Therefore, Magill in view of Gianakouros and in further view of Lupien, even if combined, do not teach at least the claim limitation of “passive orders, wherein said passive orders include at least one order selected from the group consisting of: not held designated

orders, cross only designated orders and do not represent designated orders” recited in claims 12 and 21.

(b) There is no motivation to modify or combine the reference teachings:

The Examiner has stated that “[i]t would have been obvious to someone skilled in the ordinary art at the time of invention to include the teachings of Lupien to the disclosure of Magill in view of Gianakouros, so that there is an efficient system in place to both record buy and sell orders in a database, compare said buy and sell orders and match orders appropriately” (Final Office Action, pg. 10, emphasis added.) Nonetheless, Applicants respectfully note that Magill, Gianakouros and Lupien, show that there is an array of price matching strategies, all of which differ from that of Applicants’. Therefore, Applicants respectfully submit that it would not have been obvious to a person of ordinary skill in the art to modify Magill in view of Gianakouros and in further view of Lupien to obtain Applicants’ method as recited in claim 1, as one of skill in the art not only would have not found the teachings or suggestions in these references to arrive at Applicants’ claimed invention, but in fact would have been distracted from arriving at such claimed invention. Applicants’ respectfully disagree with the Examiner’s conclusion that it would have been obvious to someone skilled in the ordinary art at the time of invention to include the teachings of Lupien to the disclosure of Magill in view of Gianakouros, without an application of impermissible hindsight reasoning gained by review of the present application.

Applicants will not further discuss at this time additional arguments to support that there is no motivation to modify or combine the reference teachings.

Claims 13-19 depend from claim 12, and claims 22-36 depend from claim 21, and each defines further features of the method. As such, these claims are patentable for the reasons noted above with respect to claims 12 and 21 as well as for the additional features recited therein. Claims 25-27 and 29 have been amended to incorporate the same language as in amended Claim 1.

**Closing**

Claims 1-3, 5, 12, 21, 22, 25-27 and 29 have been amended. Claims 1-36 are pending and believed to be in condition for allowance. Applicants have made a diligent effort to place this application in better condition for immediate allowance and notice to this effect is earnestly solicited. The Examiner is respectfully requested to reconsider the application at an early date with a view towards issuing a favorable action thereon. If upon the review of the application, the Examiner is unable to issue an immediate notice of allowance, he is respectfully requested to telephone the undersigned attorney at (212) 895-1376 with a view towards resolving the outstanding issues.

The Commissioner is authorized to charge and fees required in connection with this submission to Deposit Account No. 50-0521.

Respectfully submitted,



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Date: June 22, 2007

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